DVR4MQA – DIGITAL 4-CHANNEL RECORDER

1. Introduction

Thank you for choosing the **DVR4MQA**. It can be used as a replacement for both a time-lapse VCR and a quad/ multiplexer in a security installation. Read the manual carefully before bringing this device into service.

a) Safety Prescriptions

- Handle this device with care.
- Do not expose this device to direct sunlight.
- Do not use this device near water and protect it against any possible contact with water.
- Do not unplug the power connector before you've correctly switched the device off.
- Use this device solely with the included power adapter.
- Unauthorised attempts to repair may result in fire, electroshock or other hazards. Do not open the housing.
- This device should be installed and serviced by a qualified person and conform to all local codes.
- Do not switch the power ON and immediately (± 3 sec.) OFF again.

b) Features

- Thanks to the wavelet compression format, this device replaces both a time-lapse VCR + a multiplexer/quad.
- 4 audio inputs ; 2 audio outputs (mono).
- OSD (on-screen display) and remote control via Video Web Server (**VWS2**) and/or PC.
- PIP (picture in picture) and POP (picture on picture) functions during live viewing.
- Motion detection + motion trigger recording function.
- Alarm input & output function
- Video loss detection on each channel
- Linear zoom (x2 - x4)
- Multiplexer & Quad recording mode switching
- recording rate: full size up to 30 images/second ; quad size up to 120 images/second
- Supports 1 removable HDD with hot-swap capability, IDE type
- Quick-search mode: search a fragment by time/date, alarm, full, motion list.
- Password protection
- RS232 and RS485 communication protocol.

c) Specifications

Video Format	NTSC/EIA or PAL/CCIR
HDD Storage	1 removable IDE type HDD, UDMA 66 or above
Record Mode	manual / alarm / timer / motion
Camera Input Signal	Composite video signal 1Vp-p/75Ω BNC, 4 channels
Main/Call Monitor Output	Composite video signal 1Vp-p/75Ω BNC
Audio Input	4 RCA audio inputs
Audio Output	2 RCA mono audio outputs
Motion Detection Area	16x12 targets per camera
Motion Detection Sensitivity	99 levels
Video Loss Detection	yes
Display Refresh Rate	240ips (NTSC), 200ips (PAL)
Recording Refresh Rate	30ips (NTSC), 25ips (PAL)
Dwell Time	programmable (1~15 sec)

Picture-in-Picture	yes (movable)
Key Lock	yes
Picture Zoom	x2~x4 (movable)
Camera Title	8 characters max.
Video adjustable	Hue/colour/contrast/brightness
Alarm Input	TTL input, high (5V), low (GND)
Alarm Output	COM / NO / N.C.
Remote Control	RS232 or RS485
Time Display Format	YY/MM/DD ; DD/MM/YY ; MM/DD/YY ; OFF
Power Source	AC 90-220V, 47~63Hz
Power Consumption	< 32W
Operating Temperature	10 – 40°C
RS232C / RS485 (bps)	115200 ; 57600 ; 19200 ; 9600 ; 4800 ; 3600 ; 2400 ; 1200
Dimensions	343 x 223 x 59mm (W x D x H)
Weight	2.05kg

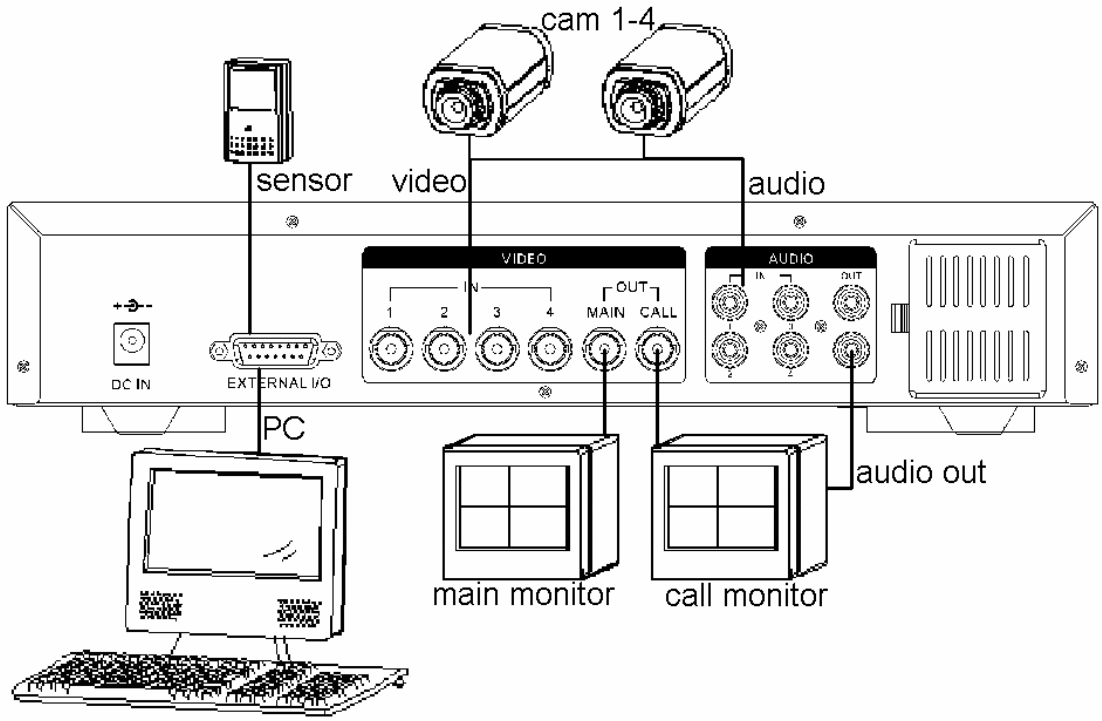
2. Installation

a) Contents

Your **DVR4MQA** should come with the following items:

- a digital quad recorder with HDD tray
- 2 tray keys
- power adapter + cable
- user manual
- demounted 15-pin connector accessory pack
- HDD connector + screws accessory pack

b) Connection with cameras



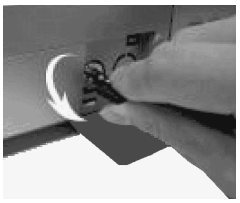
c) RS232 Remote Protocol

You can use the PC keyboard to simulate the DMR keypad.
DATA: REMOTE PROTOCOL using 8-bit data – 1 start bit – 1 stop bit

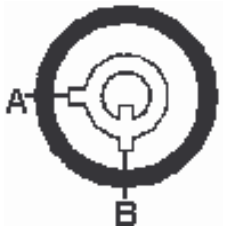
FUNCTION	CODE	ASCII	FUNCTION	CODE	ASCII
KEY_MENU	0 x 4D	M	KEY_PLAY	0 x 50	P
KEY_SEARCH	0 x 73	s	KEY_DOWN	0 x 4E	N
KEY_ENTER	0 x 0D	ENTER	KEY_RIGHT	0 x 52	T
KEY_QUAD	0 x 51	Q	KEY_POWER	0 x 57	W
KEY_ZOOM	0 x 5A	Z	KEY_ KEY_LOCK	0 x 4B	K
KEY_PIP	0 x 70	p	KEY_CH1	0 x 31	1
KEY_SLOW	0 x 53	S	KEY_CH2	0 x 32	2
KEY_REC	0 x 72	r	KEY_CH3	0 x 33	3
KEY_LEFT	0 x 4C	L	KEY_CH4	0 x 34	4
KEY_UP	0 x 55	U	TIMER REC PROCEED	0 x 54	T

3. Configuration

a) Installing HDD

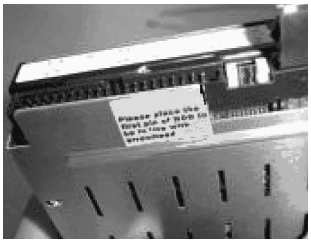


1) Removing HDD Tray



1. Open the lock protection cap and set the tray lock to position B (see figures at the right).
   In position A (cf. drawing on the right), the tray is locked and cannot be removed.
   In position B, the tray is unlocked and can be removed.
   The key lock must be in position A for the device to operate properly.
2. Pull out the tray. If there is a HDD inside, loosen all the screws on the tray and remove the HDD from the tray. If you want to install another HDD, remove the connector from the HDD.

2) Installing the Hard Drive into the Tray



1. Put the connector on the HDD to be installed. Make sure the jumper on the HDD is set to master (for some HDDs, the jumper should be on CS (cable select)).
2. Put the HDD into the tray. The connector should match the bottom plate extension. Position the HDD in such a way that the first pin aligns with the arrowhead as indicated on the sticker on the bottom plate extension.
3. Secure the HDD with the enclosed screws.
4. Reverse the tray (so the bottom plate faces down) and insert it into the device.
5. Lock the tray by turning the key lock clockwise and close the lock protection cap.

3) Max. Recording Time & Compatible HDD's

The recording time depends on the recording speed and quality. These times are valid for a 250GB HDD.
Below data are obtained from an actual test during which normal TV programs were recorded.

NTSC SYSTEM

IPS		30	15	8	4	2	1
multiplex	Best	50hr	100hr	187hr	375hr	750hr	1500hr
	High	62hr	125hr	235hr	468hr	937hr	1875hr
	Normal	100hr	200hr	375hr	750hr	1500hr	3000hr
	Basic	167hr	333hr	625hr	1250hr	2500hr	5000hr
quad-field	Best	47hr	95hr	177hr	356hr	712hr	1425hr
	High	58hr	118hr	223hr	445hr	890hr	1781hr
	Normal	95hr	190hr	356hr	712hr	1425hr	2850hr
	Basic	158hr	316hr	593hr	1187hr	2375hr	4750hr
quad-frame	Best	24hr	48hr	89hr	178hr	356hr	713hr
	High	29hr	59hr	112hr	223hr	445hr	890hr
	Normal	48hr	80hr	178hr	356hr	713hr	1425hr
	Basic	79hr	158hr	296hr	594hr	1188hr	2375hr

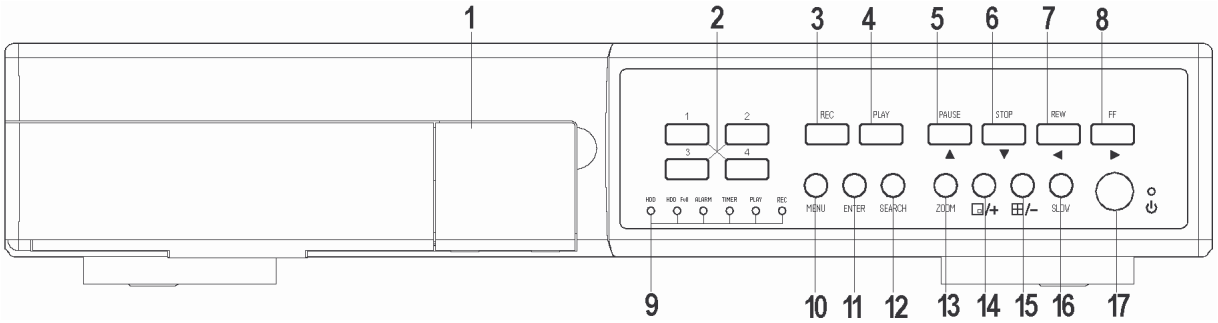
PAL SYSTEM

IPS		25	12	6	3	2	1
multiplex	Best	50hr	104hr	210hr	422hr	633hr	1266hr
	High	62hr	131hr	265hr	527hr	792hr	1583hr
	Normal	102hr	210hr	422hr	844hr	1266hr	2542hr
	Basic	168hr	350hr	704hr	1406hr	2110hr	4218hr
quad-field	Best	48hr	98hr	200hr	400hr	601hr	1202hr
	High	58hr	124hr	251hr	500hr	752hr	1503hr
	Normal	98hr	200hr	400hr	801hr	1202hr	2414hr
	Basic	159hr	332hr	668hr	1335hr	2004hr	4007hr
quad-frame	Best	24hr	49hr	100hr	200hr	300hr	601hr
	High	29hr	62hr	125hr	250hr	376hr	751hr
	Normal	49hr	100hr	200hr	400hr	601hr	1207hr
	Basic	79hr	166hr	334hr	667hr	1002hr	2003hr

COMPATIBLE HDD MODELS

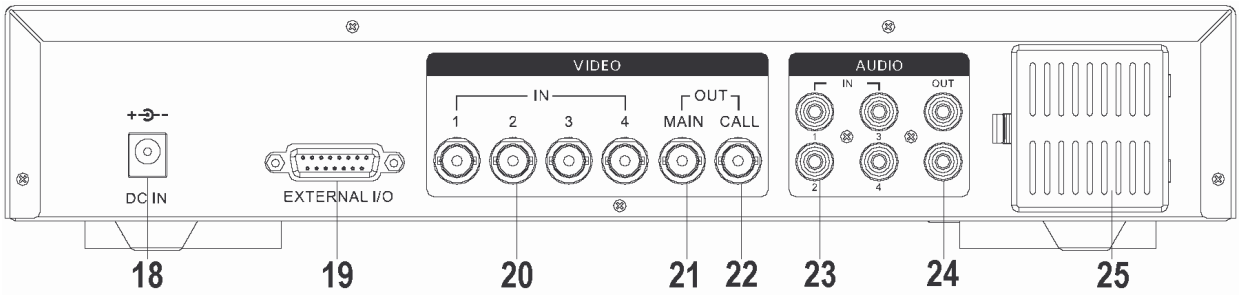
Manufacturer	Model	Capacity	Rotation
HITACHI	Deskstar 180GPX (120GB)	120GB	7200rpm
HITACHI	Deskstar 7K250, HDS722516VLAT20	160GB	7200rpm
HITACHI	Deskstar 7K250, HDS722525VLAT80	250GB	7200rpm
IBM	Deskstar 120GXP (80GB)	80GB	7200rpm
IBM	Deskstar 120GXP (120GB)	120GB	7200rpm
Maxtor	DiamondMax 536DX (60GB) 4W060H4	60GB	5400rpm
Maxtor	DiamondMax Plus 9	80GB	7200rpm
Maxtor	DiamondMax Plus 9, Model#6Y120L	120GB	7200rpm
Maxtor	DiamondMax Plus 9, Model#6Y160L0	160GB	7200rpm
Maxtor	MaxLine Plus II, Model#7Y250P0	250GB	7200rpm
Seagate	Barracuda ATA IV ST380021A	80GB	7200rpm
Seagate	Barracuda ATA V, ST3120023A	120GB	7200rpm
Seagate	Barracuda 7200.7 Plus, ST3160023A	160GB	7200rpm
Western Digital	Caviar WD1200BB-00CAA1	120GB	7200rpm
Western Digital	Caviar WD2000BB-00DWA0	200GB	7200rpm
Western Digital	CaviarSE WD2500JB	250GB	7200rpm

b) Control Panel Description



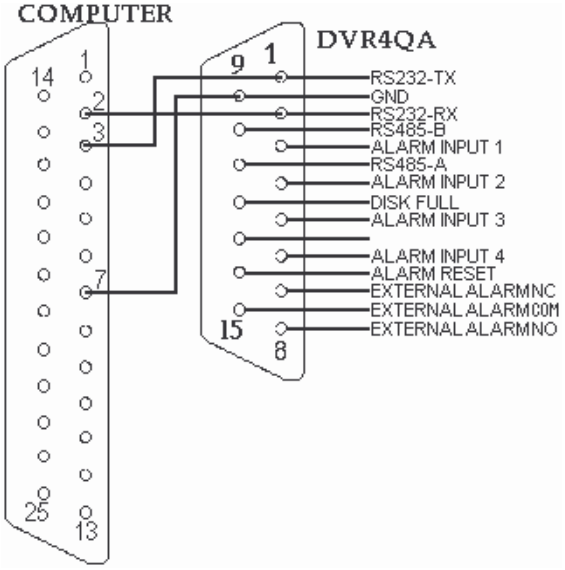
1. REMOVABLE HDD CARTRIDGE & KEYHOLE
2. CAMERA: press one of the buttons to select that channel
3. REC: to start recording immediately.
4. PLAY: to play recorded video.
5. PAUSE/▲ : pauses the fragment. In setup mode it works as an up button.
6. STOP/▼ : stops playback or recording. In setup mode it works as a down button.
7. REW /◄: to rewind in PLAY and PAUSE mode. In setup mode it works as a left button.
8. FF / ► : to wind forward in PLAY and PAUSE mode. In setup mode it works as a right button.
9. LEDs: HDD: HDD status
   HDD FULL: HDD is full
   ALARM: alarm is armed (when alarm is triggered, LED is flashing)
   TIMER: the device is programmed to record
   PLAY: recorded material is being reproduced
   REC: the device is recording
10. MENU: Press this key to access the main menu.
11. ENTER: to confirm data or a selection.
12. SEARCH: opens the search menu
13. ZOOM: press ZOOM to enlarge the displayed picture
14. PIP/+: Press once for PIP, twice for POP. In setup mode it works as a "+" button to change a value.
15. QUAD/-: displays all 4 channels simultaneously. In setup mode it works as a "-" button to change a value.
16. SLOW: slows down the play speed.
17. POWER: Press this button to power on, and press it again to power off.

c) Back Panel Description

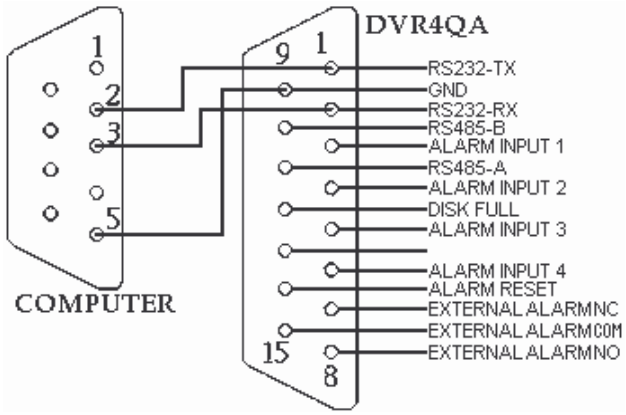


18. POWER: connect the provided adapter to this connector and plug it into the mains.
19. External I/O: the device can be controlled remotely by an external device or trigger mechanism.
20. VIDEO inputs 1-4: to connect video sources such as cameras.
21. MAIN MONITOR: to connect the main monitor.
22. CALL MONITOR: to connect the call monitor. This monitor will show the triggered channel in case of an alarm.
23. AUDIO IN: 1 input per channel. Only 1 input can be recorded during 1 session. Only available when IPS≥25.
24. AUDIO OUT: 2 mono audio outputs. Only available when IPS≥25.
25. FAN: for ventilation purposes ; do not block this opening

25-pin COM port



9-pin COM port



PIN 1: RS232-TX + PIN 2: RS232-RX: This device can be controlled remotely by an external device or control system, such as a control keyboard, using RS-232 serial communications signals.
PIN 3/4/5/6: ALARM INPUT 1/2/3/4: By connecting these pins to GND (pin 9), the **DVR4MQA** will start recording and the buzzer will be on. Triggering depends on the set level (high/low) under Menu/Camera/Alarm.
PIN 7: EXTERNAL ALARM NC + PIN 8: EXT. ALARM NO: During normal functioning COM is connected with NC and not with NO. When there is an alarm trigger, COM disconnects from NC and connects with NO.
PIN 9: GND: GROUND
PIN 10: RS485-B + PIN 11: RS485-A: This device can be controlled remotely by an external device or control system, such as a control keyboard, using RS-485 serial communications signals.
PIN 12: DISK FULL: When the HDD is full, it sends a trigger signal to a possible next **DVR4MQA**. Normally this signal is high ; when the disk is full it becomes low.
PIN 14: ALARM RESET: An alarm can be disabled by connecting pin 14 to pin 9 (GND). An external signal to this pin can reset both the alarm output signal and the internal buzzer. Normally this signal is high.
PIN 15: EXTERNAL ALARM COM: During normal functioning COM is connected with NC and not with NO. When there is an alarm trigger, COM disconnects from NC and connects with NO.

4. Operation

a) Power on the Device

Before turning the power ON, make sure a HDD is installed and the tray has been locked. If no HDD is installed, the **DVR4MQA** will function as a 4-channel multiplexer.

1. Connect the **DVR4MQA** to a mains outlet by means of the supplied AC power cord and adapter and press the POWER button (p.5 #17). The red LED indicator next to it lights up: the DVR is in standby mode.
2. Press the POWER button, the POWER LED will turn to orange and all the other LEDs (p.5 #9) will turn red. The device takes anywhere from 5 to 15 seconds to boot, all the while displaying the message "HDD detecting". When the boot is complete and the HDD is detected, the LED will turn to green and the ALARM LED will be lit. When no HDD is detected, "HDD not found" appears for 3 seconds and the device goes to 4CH multiplexer mode.
3. Set the system time before operating the **DVR4MQA** (see §5-b-11 on p.9).

NOTE: to switch from NTSC to PAL or vice versa, power down the device and unplug the AC power cord. For NTSC, press POWER+FF before reconnecting the cord ; for PAL, press POWER+REW.

b) Recording

Your **DVR4MQA** offers a variety of recording modes. You can set it up to record continuously or programmed, or only to record events ; you can even set the recording speed and resolution. All these options are set through the system menu. If there should be a power cut during recording, the device will automatically resume recording when the power returns. The original recording set-up will be respected.

There are 4 recording modes, during which the screen will be as displayed on the right. Date and time are displayed, with underneath these symbols:
the recording mode symbol, followed by "●" = recording, and "OW" = HDD in overwrite mode – when the HDD is full, the oldest data will automatically be overwritten.
When the HDD is not in overwrite mode, the OW location will show the capacity left on the HDD ; at 5GB, "5GB" will appear in orange and a buzzer will sound. The same will happen for 4GB, 3GB, 2GB and 1GB.

1) Alarm Recording

The **DVR4MQA** is triggered by an alarm input and will start to record immediately, with the symbol appearing.
The recording speed & quality will be as set in the alarm recording mode set-up.

2) Motion Trigger Recording

Recording can be triggered by motion detection. The symbol will appear on the triggered channel.
The recording speed & quality will be as set in the RECORD menu.

3) Programmed Recording

The **DVR4MQA** will follow the timer set-up to record and the recording speed & quality as set in the TIMER menu.
The icon will appear.

4) Manual Recording

You can press the REC button to start recording immediately. The symbol will appear.
The recording speed & quality will be as set in the RECORD menu.

c) Playback

Press PLAY: the **DVR4MQA** will go into play mode and will start playing the last recording.

1) Fast Forward (F.F.) & Fast Rewind (F.R.)

- Press PLAY then press ► for fast forward searching. Press once for double speed, press twice for quadruple speed, 3 times for 8x, 4 times for 16x and 5 times for 32x (maximum speed).
- Press PLAY then press ◄ for fast rewind searching. Press once for double speed, press twice for quadruple speed, 3 times for 8x, 4 times for 16x and 5 times for 32x (maximum speed).

2) Slow Forward (S.F.) & Slow Rewind (S.R.)

- Press PLAY then press SLOW for slow play at half speed. Press ► once for quarter speed, 2 times for 1/8x, 3 times for 1/16x and 4 times for 1/32x (minimum speed).
- Press PLAY then press SLOW for slow play. Press ◄ once for half speed, press twice for quarter speed, 3 times for 1/8x, 4 times for 1/16x and 5 times for 1/32x (minimum speed).

3) Pause

Press PLAY then press PAUSE, the image will be paused.

4) Stop

Press STOP and the **DVR4MQA** will stop all actions and display the incoming signal.

5) Image by image

- Press PLAY and PAUSE to pause the image. Press ► to go to the next image ; keep it pressed to go faster.
- Press PLAY and PAUSE to pause the image. Press ◄ to go to the previous image; keep it pressed to go faster. When the very first image is shown, the **DVR4MQA** cannot return further.

e) Video Loss

"**LOSS**" will appear on the screen if the **DVR4MQA** does not receive a video signal.

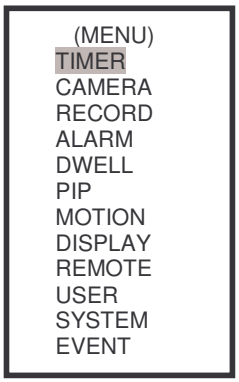
f) Key Lock

Press MENU and ENTER simultaneously to lock the control keys.
Press MENU and ENTER simultaneously, enter the password (default: 0000) and press ENTER to unlock the keypad.
Locking and unlocking the keypad can also be used to switch users by entering another password.

5. System Set-up

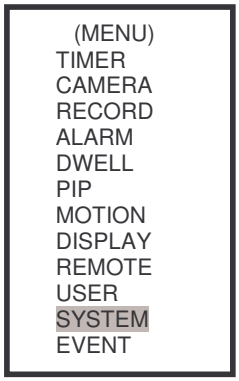
a) Open Main Menu

Press the MENU button on the front of the device. The screen you see on the right will be displayed.



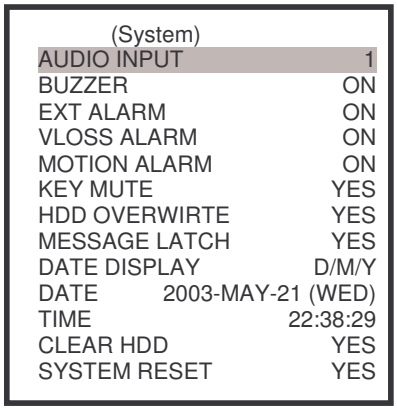
You can use the ▲ , ▼ , ► and ◄ buttons to move around in the menu.
You can use "+" and "-" to increase of decrease the displayed values.
Use 'ENTER' to open a submenu/option under a submenu.
Use MENU to complete the modification of a menu option or to exit a menu.

b) System Menu



Press the MENU button and press ▲ or ▼ until 'SYSTEM' is selected (cf. figure on the right).

Press ENTER to enter the system set-up menu.
A screen as shown on the right will be displayed.
All instructions below start from this point.



1) AUDIO INPUT

To choose the channel to be recorded
(the audio of only 1 channel can be recorded).

2) BUZZER

If the buzzer is 'ON',
it will buzz when there is a motion detection.

3) EXT. ALARM

If it is ON, the external alarm output will be triggered when there is a motion detection.

4) VLOSS ALARM

If it is 'ON' and there is video loss, it can trigger the buzzer, send out an external alarm and start recording.

5) MOTION ALARM

If it is 'ON' and there is a motion detection, it can trigger the buzzer, send out an external alarm and start recording.

6) KEY MUTE

If it is set to 'YES', there will be no sound when you press a key.

7) HDD OVERWRITE Set-Up

If it is set to 'YES' and the HDD is full, previously recorded files will be overwritten without further warning notice.

8) MESSAGE LATCH Set-Up

If it is set to 'NO' (default setting), DVR messages will disappear after 10 seconds.
If it is set to 'YES', the DVR messages will remain on screen.
NOTE: video loss, alarm and motion messages will disappear after the set Alarm Duration time.

9) DATE DISPLAY Set-Up

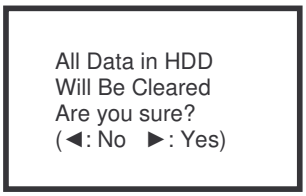
Set the date appearance as Y/M/D, M/D/Y, D/M/Y or off.

10) DATE Set-Up

Set the date.

11) TIME Set-Up

Set the time.



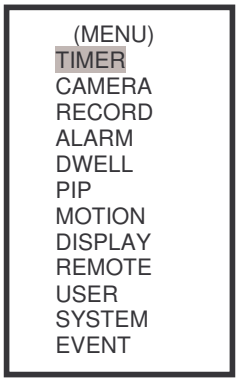
12) CLEAR HDD Set-Up

Set this line to 'YES' and press ENTER. A screen as displayed on the right will appear.
Press ► to clear the HDD or ◄ to cancel.

13) SYSTEM RESET Set-Up

To set all system settings back to factory default settings. Select 'YES' and press ENTER.

c) Timer Programming



Press the MENU button on the front of the device and press ▲ or ▼ until 'TIMER' is selected (cf. figure on the right).

Press ENTER to enter the timer menu. A screen as shown below will be displayed.

(TIMER)

DAY	START	END	IPS	QLT	MODE
DAILY	01:00	22:00	15	BEST	Q-FR
OFF	00:00	00:00	15	BEST	Q-FI
OFF	00:00	00:00	15	BEST	Q-FI
OFF	00:00	00:00	15	BEST	Q-FR
OFF	00:00	00:00	15	BEST	MUX
OFF	00:00	00:00	15	BEST	Q-FR
OFF	00:00	00:00	15	BEST	Q-FI

TIMER ENABLE: NO

1) DAY

Press ENTER to set the day selection of the first line.
Press + or - to select the day set-up:

- DAILY : every day
- MON / TUE / WED / THU / FIR / SAT / SUN: one day only
- MO-FR : Monday to Friday
- SA-SU : Saturday & Sunday
- JAN-01 : specific date.

2) START

Set the recording start time (HH:MM).

3) END

Set the recording end time (HH:MM).

NOTE: if you want to record from 23:30 on Sunday to 00:20 on Monday, you will need to set 2 lines: one on Sunday from 23:30 to 23:59 and one on Monday from 00:00 to 00:20. One line from Sunday 23:30 to 00:20 will result in the **DVR4MQA** recording from Sunday 23:30 to 00:20 on the next Sunday…

4) IPS

Select the number of images per second (IPS).
NTSC : 1, 2, 4, 8, 15, 30 ; PAL: 1, 2, 3, 6, 12, 25

5) QUALITY

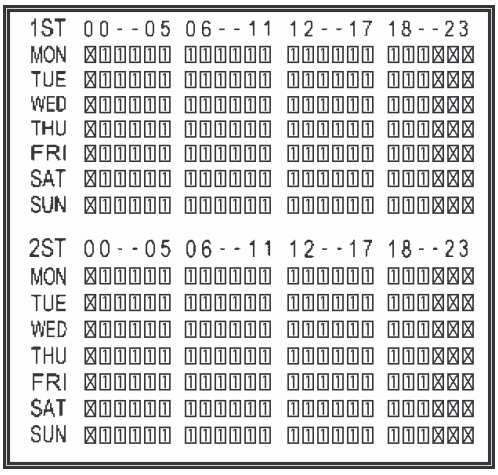
Select the recording quality: BEST, HIGH, NORM or BASE.

6) MODE

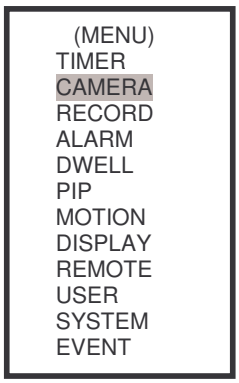
Select the recording mode:
Q-FR = quad-frame: all 4 channels simultaneously
Q-FI = quad-field: all 4 channels simultaneously at lower resolution
MUX = multiplex: the 4 channels consecutively

7) TIMER ENABLE

If you set it to 'YES' and press MENU, you can see a diagram as shown at the right that displays what you've programmed:



d) CAMERA



Press the MENU button on the front of the device and press ▲ or ▼ until 'CAMERA' is selected (cf. figure on the right).

Press ENTER to enter the camera menu. A screen as shown below will be displayed.

(CAMERA)

TITLE	ALARM	REC	BR	CT	CL	HUE
CAMERA 1	LOW	ON	18	15	15	18
CAMERA 2	OFF	OFF	18	15	15	18
CAMERA 3	HIGH	OFF	18	15	15	18
CAMERA 4	HIGH	ON	18	15	15	18

1) TITLE

A title can be given to each channel/camera. Initially each title is the channel number.

2) ALARM

Select LOW / OFF / HIGH for alarm polarity. The default value is LOW.

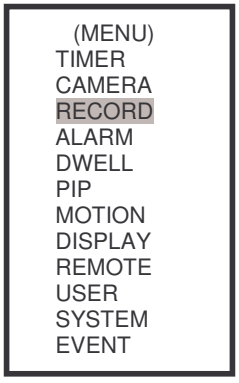
3) REC

Select if the channel has to be recorded or not. When it is set to ON and the alarm is triggered for that channel, it will be recorded more frequently, e.g. if channel 1 is triggered, the recording sequence will be 1-2-1-3-1-4-…

4) BT (Brightness) / CT (Contrast) / CL (Colour) / HUE

Adjust the brightness, contrast, colour and hue for each channel ; the levels can be set from 0 to 63.

e) Recording Mode



Press the MENU button on the front of the device and press ▲ or ▼ until 'RECORD' is selected (cf. figure on the right).

Press ENTER, the following screen will appear:

(RECORD)
RECORD IPS: 30
RECORD QUALITY: NORMAL
RECORD MODE: FRAME

1) RECORD IPS

Select the number of images per second (IPS).
NTSC : 1, 2, 4, 8, 15, 30 ; PAL: 1, 2, 3, 6, 12, 25

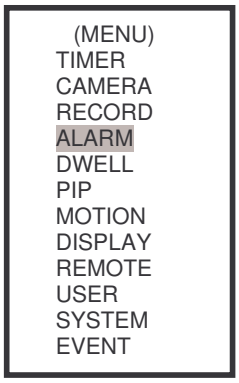
2) QUALITY

Select the recording quality: BEST, HIGH, NORM or BASE.

3) RECORD MODE

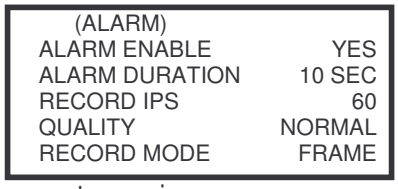
Select the recording mode:
Q-FR = quad-frame: all 4 channels simultaneously
Q-FI = quad-field: all 4 channels simultaneously at lower resolution
MUX = multiplex: the 4 channels consecutively

f) Alarm



Press the MENU button on the front of the device and press ▲ or ▼ until 'Alarm' is selected (cf. figure on the right).

Press ENTER, the following screen will appear:



1) ALARM ENABLE

If it is set to 'YES', the alarm will be triggered by any event occurring.

2) ALARM DURATION

Set the alarm duration. Default setting is 10 SEC. Other settings are: 15 SEC, 20 SEC, 30 SEC, 1 MIN, 2 MIN, 3 MIN, 5 MIN, 10 MIN, 15 MIN, 30 MIN, ALWAYS, AUTO.

3) RECORD IPS

Select the number of images per second during an alarm recording: NTSC: 1, 2, 4, 8, 15, 30; PAL: 1, 2, 3, 6, 12, 25.

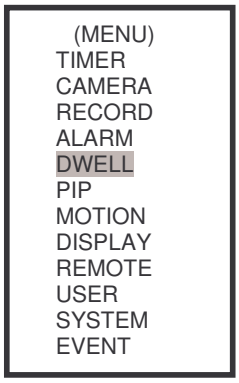
4) QUALITY

Select the recording quality: BEST, HIGH, NORM or BASE.

5) RECORD MODE

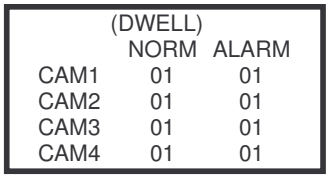
Select the recording mode during an alarm recording:
Q-FR = quad-frame: all 4 channels simultaneously
Q-FI = quad-field: all 4 channels simultaneously at lower resolution
MUX = multiplex: the 4 channels consecutively

g) DWELL



Press the MENU button and press ▲ or ▼ until 'DWELL' is selected (cf. figure on the right).

Press ENTER ; the following screen will appear:



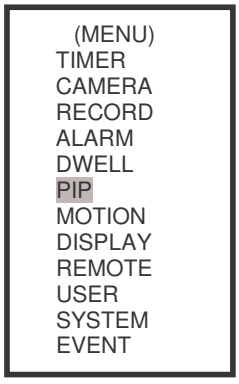
1) NORM

Set the time each channel is displayed during sequential showing on the call monitor.
The level can be set from 1 to 15 seconds or OFF.

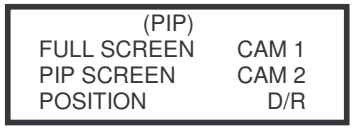
2) ALARM

Set the time each channel is displayed when the alarm input is triggered.
The level can be set from 1 to 15 seconds or OFF.

h) PIP



Press the MENU button and press ▲ or ▼ until 'PIP' is selected (cf. figure on the right).
Press ENTER ; the following screen will appear:



1) FULL SCREEN

Set the channel to be displayed full screen.

2) PIP SCREEN

Set the channel to be displayed in a 1/9 size 'insert'.

3) POSITION

There are 6 position settings: D/L, D/M, D/R, U/L, U/M, U/R

i) MOTION

Press the MENU button and press ▲ or ▼ to select 'MOTION' (cf. figure on the right).
Press ENTER to enter the motion menu. A screen as shown below will be displayed.

(MENU)
TIMER
CAMERA
RECORD
ALARM
DWELL
PIP
MOTION
DISPLAY
REMOTE
USER
SYSTEM
EVENT

(MOTION)

	SEN	ND-NUM	RE	DET	
CAM1	70	03	64	ON	AREA
CAM2	70	03	64	OFF	AREA
CAM3	70	03	64	ON	AREA
CAM4	70	03	64	ON	AREA

MOTION RECORD: ON

DAY	START	END
DAILY	00:00	00:00

1) SEN (Sensitivity)

Set the sensitivity of the pixel-based motion detection feature from 1 (high) to 99 (low sensitivity). Default value is 70.

2) MD-NUM (Motion Detection Number)

Set the number of targets in which motion must occur for the alarm to be triggered (from 1 to 99 – cannot be more than the number of targets set under AREA).

3) RE (Reference)

Set the reference image to which the current screen is compared (1-99). For example, value 64 would compare the current image to the 64th image before that. A higher value may increase the sensitivity.

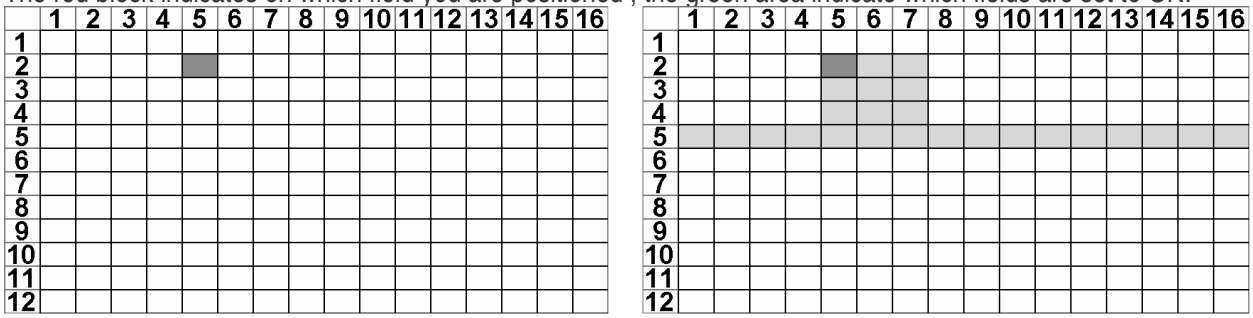
4) DET (Detection)

The motion detection on each channel can be turned ON or OFF individually.

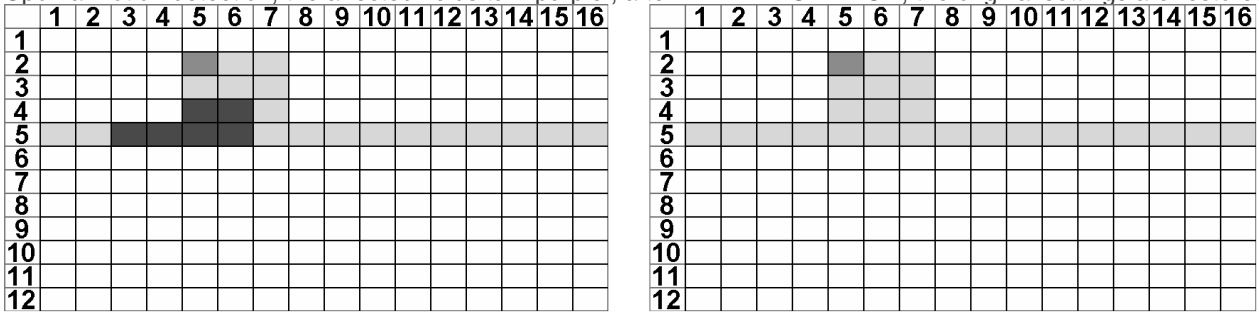
5) AREA

Press the ENTER button when this option is selected to set the pixel-based motion detection area for each channel.
Green targets represent the motion detection area and purple targets represent detected motion.
Use these controls to modify the motion detection area (see figures p.5):
▲▼► ◄: navigates between targets, ZOOM turns selected target ON/OFF
'-' turns all targets on the screen ON/OFF ; '+' turns all targets on the selected row ON/OFF
NOTE: when DET is ON, you must set a motion detection area or there will be no triggering.

The red block indicates on which field you are positioned ; the green area indicate which fields are set to ON.



Upon a motion detection, the affected fields turn purple ; after ALARM DURATION, the original settings are restored.



6) MOTION RECORD

When DET is 'ON', you can set up the MOTION RECORD function.

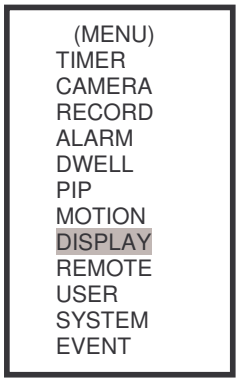
1. When MOTION RECORD is set to ON: the **DVR4MQA** will automatically start to record when there is a motion detection. The scanning sequence will be modified and 🏃 will appear on the monitor. Note that the motion detection recording will use the ALARM DURATION time settings and that the set time will restart from zero each time there is a motion detection (also when the device is still recording from a previous detection).
2. When MOTION RECORD is set to OFF, the 🏃 icon will still appear and when the **DVR4MQA** is in record mode, the scanning sequence will be modified.

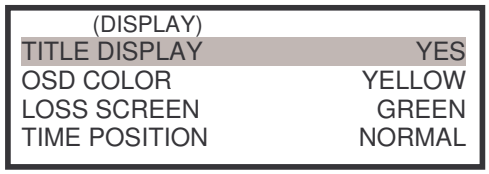
7) DAY / START / END

To set the DAY and START/END times for motion trigger recording.

j) DISPLAY

Press the MENU button and press ▲ or ▼ to select 'DISPLAY' (cf. figure on the right).
Press ENTER to enter the display menu. A screen as shown below will be displayed.





1) TITLE DISPLAY

Determine whether the title of the channel should appear on the monitor or not.

2) OSD COLOR

Set the OSD colour: YELLOW, WHITE, GREEN, BLACK, BLUE, RED, PINK or CYAN.

3) LOSS SCREEN

Select a colour for when there is no image (GREEN, BLACK or BLUE) or retain the last image (RETAIN).

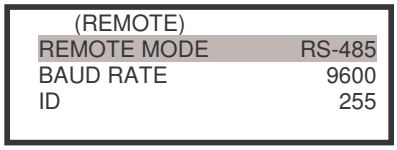
4) TIME POSITION

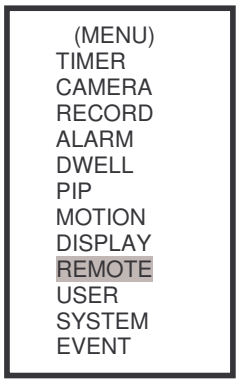
Set the position of the time display on the monitor: NORMAL or CENTER.

k) Remote Protocol Set-Up

Press the MENU button and press ▲ or ▼ to select 'REMOTE' (cf. figure on the right).

Press ENTER to enter the remote menu.
A screen as shown on the right will be displayed.





1) REMOTE MODE

Set the remote control protocol for connection with a computer: RS-232 or RS-485.

2) BAUD RATE

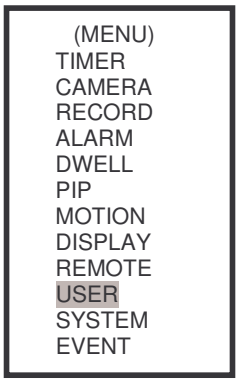
Set the baud rate: 115200 / 57600 / 19200 / 9600 / 4800 / 3600 / 2400 / 1200

3) ID

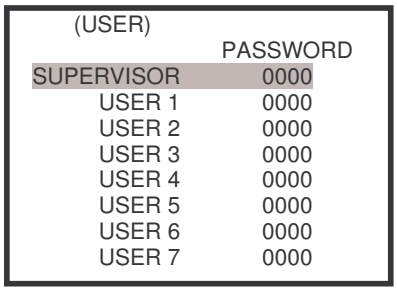
You can use the RS232 remote protocol to control more than 1 **DVR4MQA**. Set the ID number from 000 to 255.

l) USER

Press the MENU button and press ▲ or ▼ to select 'USER' (cf. figure on the right).



Press ENTER to enter the user menu.
A screen as shown on the right will be displayed.



1) USER

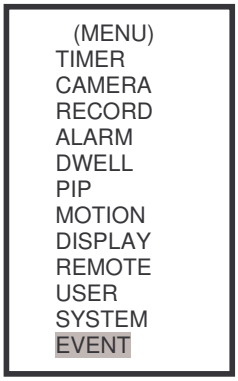
Up to 8 users can be set.
'SUPERVISOR' can control all functions ; 'USER' cannot view the menu settings and cannot clear the event list.

2) PASSWORD

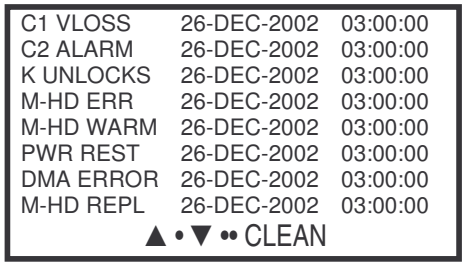
For each account, a password of 4 characters can be set (default: 0000).
To switch users, press ENTER and MENU simultaneously to lock the keypad ; press ENTER and MENU simultaneously again and enter the new user's password and press ENTER.

m) EVENT

Press the MENU button and press ▲ or ▼ to select 'EVENT' (cf. figure on the right).



Press ENTER to view the event pages.
A screen as shown on the right will be displayed.



Possible event codes:
DISK FULL: HDD is full
PWR REST: power restored
M-HD REMS: HDD removed
M-HD REPL: HDD replaced
M-HD ERR: HDD error
M-HD WARM: HDD warning
K UNLOCKS: keys are unlocked
DMA ERROR: DMA (direct memory access) error
C1 VLOSS: Video loss on channel 1
C2 ALARM: external I/O alarm trigger on channel 2
C3 MOTION: motion detection trigger on channel 3
SYSTEM ERROR: system might fail

Press ◄ or ► to switch pages (16 events on 1 page) and press ▲ or ▼ to clear the EVENT list.

6. Zoom

Press ZOOM to enlarge the main picture. A picture-on-picture field appears on the zoomed image, of which the zoomed area can be moved about.
PIP button: zoom in
QUAD button: zoom out
ZOOM (second time) to leave zoom function.
CAM 1-4 button: channel full screen
▲ , ▼ , ► ◄: to move the zoom position.

7. Search

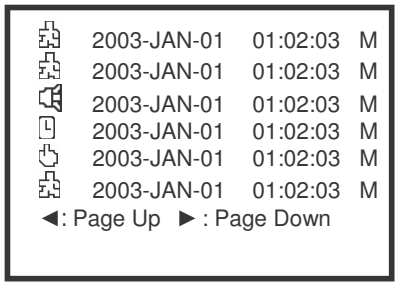
Press the SEARCH button ; a screen as shown on the right will be displayed.

1) LAST RECORDING

Press ▲ or ▼ to select 'LAST RECORD' and press ENTER to play the last recording.

2) FULL LIST

Press ▲ or ▼ to select 'FULL LIST'. Press ENTER to obtain the full list and a screen as shown on the right will be displayed.



Press ◄ or ► to switch pages (8 events per page)

= motion recording

= manual recording

= alarm recording

= timer recording

M = storage in master HDD (S = slave ; not available on **DVR4MQA**)

3) ALARM LIST

Press ▲ or ▼ to select 'Alarm List'. Press ENTER to obtain the alarm list.

Press ◄ or ► to switch pages (8 events per page)

If there are no alarms, the display will read “empty”.

4) MOTION LIST

Lists all motion triggered recordings

5) SEARCH a recording by time

Find video recorded on a specific date (and time).

8. Troubleshooting

What may appear as a malfunction of the device may not be that serious at all and can be easily corrected. Check the table below before contacting your DVR4MQA dealer.-

PROBLEM	SOLUTION
HDD not found	Make sure a HDD is inserted and connected and that the HDD tray is locked.
No power	Check power source cable connections.
	Check if there is power at the outlet.
The device does not react to keys being pressed	Check if it is under key lock mode.
	Press MENU and ENTER simultaneously to unlock the keys.
No recorded video	Check if the HDD has been installed properly.
The device does not start recording	Check if 'record enable' is set to "YES"
No live video	Check camera video cable and connections
	Check monitor video cable and connections
	Confirm that the camera is powered
	Check camera lens setting
NTSC image when PAL is needed or vice versa	Power down, unplug the device and press POWER and FF simultaneously for NTSC, POWER and REW simultaneously for PAL while replugging the power cord.

The information in this manual is subject to change without prior notice.